

# McGraw-Hill Dictionary of Scientific and Technical Terms Fifth Edition

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Editor in Chief

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On the cover: Photomicrograph of crystals of vitamin B<sub>12</sub>.  
(Dennis Kunkel, University of Hawaii)

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#### McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Fifth Edition

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absolute stereochemistry

a point fixed on celestial point. measurement in a reference frames. { 'ab-

ented by numerals

g to proper scale, a level or another model with reference model or group

parallax. { 'ab-

ratio of the magnetic field in a square meter in the w as induced capacity for flow in a rock formation with that fluid.

sical tone expressed. tone. { 'ab-sə,lüt

percentage of in the cells are inoculated. { 'ab-sə,lüt 'təm-prə-čür 'skäl }

vorticity. { 'ab-

above the absolute remains in empty space distinguished from

ce that measures the effect vacuum; used to vacuum. { 'ab-sə,lüt

device that responds divides a measurable proportional to absolute or

programming with the unit

he rate of a chemical statistical-mechanics) { 'ab-sə,lüt 'rē-ak-shən 'rät }

coordinate system.

of refraction. { 'ab-

A period ranging from al tissue is totally un-

ass of strata overlying { 'ab-sə,lüt 'rē-ak-shən 'rät }

re scale. { 'ab-sə,lüt

cept underlying New- existence of a preferred coordinates; replaced in equivalency principle. { 'ab-sə,lüt 'spās 'tīm }

ratio of the weight of m at a given tempera- water in a vacuum at a { 'ab-sə,lüt 'wāv 'mē-dər }

state of a column of air temperature is less than { 'ab-sə,lüt 'stā 'bīl-ō-dē }

or object designated as x unit; used in defining tion. { 'ab-sə,lüt 'stā-

absolute stereochemistry See absolute configuration. { 'ab-sə,lüt 'ster-ē-ō 'kēm-ō-strē }

absolute stereoscopic parallax [GRAPHICS] Considering a pair of aerial photographs of equal principal distance, the absolute stereoscopic parallax of a point is the algebraic difference of the distances of the two images from their respective photograph nadirs, measured in a horizontal plane and parallel to the air base. Also known as absolute parallax; horizontal parallax; linear parallax; parallax; stereoscopic parallax; x-parallax. { 'ab-sə,lüt 'ster-ē-ō 'skāp-ik 'par-ə-laks }

absolute stop [CIV ENG] A railway signal which indicates that the train must make a full stop and not proceed until there is a change in the signal. Also known as stop and stay. { 'ab-sə,lüt 'stāp }

absolute system of units [PHYS] A set of units for measuring physical quantities, defined by interrelated equations in terms of arbitrary fundamental quantities of length, mass, time, and charge or current. { 'ab-sə,lüt 'sis-təm əv 'yū-nits }

absolute temperature [THERMO] 1. The temperature measurable in theory on the thermodynamic temperature scale. 2. The temperature in Celsius degrees relative to the absolute zero at -273.16°C (the Kelvin scale) or in Fahrenheit degrees relative to the absolute zero at -459.69°F (the Rankine scale). { 'ab-sə,lüt 'təm-prə-čür }

absolute temperature scale [THERMO] A scale with which temperatures are measured relative to absolute zero. Also known as absolute scale. { 'ab-sə,lüt 'təm-prə-čür 'skäl }

absolute term See constant term. { 'ab-sə,lüt 'tərm }

absolute threshold [PHYSIO] The minimum stimulus energy that an organism can detect. { 'ab-sə,lüt 'thrēsh-ōld }

absolute time [GEOL] Geologic time measured in years, as determined by radioactive decay of elements. [PHYS] See absolute space-time. { 'ab-sə,lüt 'tīm }

absolute unit [PHYS] A unit defined in terms of units of fundamental quantities such as length, time, mass, and charge or current. { 'ab-sə,lüt 'yū-nit }

absolute vacuum [PHYS] A void completely empty of matter. Also known as perfect vacuum. { 'ab-sə,lüt 'vāk-yūm }

absolute value Also known as magnitude. [MATH] 1. For a real number, the number if it is nonnegative, and the negative of the number if it is negative. Also known as numerical value. 2. For a complex number, the square root of the sum of the squares of its real and imaginary parts. Also known as modulus. 3. The length of a vector, disregarding its direction; the square root of the sum of the squares of its orthogonal components. { 'ab-sə,lüt 'vāl-yū }

absolute-value computer [COMPUT SCI] A computer that processes the values of the variables rather than their increments. { 'ab-sə,lüt 'vāl-yū kəm-pyū-tər }

absolute vector [COMPUT SCI] In computer graphics, a vector whose end points are given in absolute coordinates. { 'ab-sə,lüt 'vėk-tər }

absolute velocity [PHYS] The vector sum of the velocity of a fluid parcel relative to the earth and the velocity of the parcel due to the earth's rotation; the east-west component is the only one affected. { 'ab-sə,lüt 'və-lās-ē-dē }

absolute viscosity [FL MECH] The tangential force per unit area of two parallel planes at unit distance apart when the space between them is filled with a fluid and one plane moves with unit velocity in its own plane relative to the other. Also known as coefficient of viscosity. { 'ab-sə,lüt 'vis-kās-ē-dē }

absolute volume [ENG] The total volume of the particles in a granular material, including both permeable and impermeable voids but excluding spaces between particles. { 'ab-sə,lüt 'vāl-yūm }

absolute vorticity [FL MECH] The vorticity of a fluid relative to an absolute coordinate system; especially, the vorticity of the atmosphere relative to axes not rotating with the earth. { 'ab-sə,lüt 'vōrtis-ē-dē }

absolute wavemeter [ELECTROMAG] A type of wavemeter in which the frequency of an injected radio-frequency voltage is determined by measuring the length of a resonant line. { 'ab-sə,lüt 'wāv 'mē-dər }

absolute weighing [ENG] Determination of the mass of a sample and expressing its value in units, fractions, and multiples of the mass of the prototype of the international kilogram. { 'ab-sə,lüt 'wāg-ŋ }

absolute zero [THERMO] The temperature of -273.16°C, or -459.69°F, or 0 K, thought to be the temperature at which

molecular motion vanishes and a body would have no heat energy. { 'ab-sə,lüt 'zēr-ō }

absorb [CHEM] To take up a substance in bulk. [ELECTROMAG] To take up energy from radiation. [PHYS] To take up matter or radiation. { 'əb'sɔrb }

absorbance [PHYS CHEM] The common logarithm of the reciprocal of the transmittance of a pure solvent. Also known as absorbancy; extinction. { 'əb'sɔrb-əns }

absorbancy See absorbance. { 'əb'sɔrb-əns }

absorbed charge [ELEC] Charge on a capacitor which arises only gradually when the potential difference across the capacitor is maintained, due to gradual orientation of permanent dipolar molecules. { 'əb'sɔrbd 'čārg }

absorbed dose [MED] The part of an administered medication which is not excreted by the recipient's body. [NUCLEO] The amount of energy imparted by ionizing particles to a unit mass of irradiated material at a place of interest. Also known as dosage; dose. { 'əb'sɔrbd 'dōs }

absorbed-dose rate [NUCLEO] The absorbed dose of ionizing radiation imparted at a given location per unit of time (second, minute, hour, or day). { 'əb'sɔrbd 'dōs 'rāt }

absorbency [CHEM] Penetration of one substance into another. { 'əb'sɔrb-əns }

absorbency index See absorptivity. { 'əb'sɔrb-əns-ē 'in-deks }

absorbent [MATER] A material which, in contact with a liquid or gas, extracts one or more substances for which it has an affinity, and is altered physically or chemically during the process. { 'əb'sɔrb-ənt }

absorbent cotton [MATER] A cotton fiber that absorbs water because its natural waxes have been removed. { 'əb'sɔrb-ənt 'kāt-ən }

absorbent paper [MATER] Paper capable of absorbing and holding liquids by the capillarity of the pores between or within the closely matted cellulosic fibers. { 'əb'sɔrb-ənt 'pā-pər }

absorber [CHEM ENG] Equipment in which a gas is absorbed by contact with a liquid. [ELECTR] A material or device that takes up and dissipates radiated energy; may be used to shield an object from the energy, prevent reflection of the energy, determine the nature of the radiation, or selectively transmit one or more components of the radiation. [ENG] The surface on a solar collector that absorbs the solar radiation. [MECH ENG] 1. A device which holds liquid for the absorption of refrigerant vapor or other vapors. 2. That part of the low-pressure side of an absorption system used for absorbing refrigerant vapor. [NUCLEO] A material that absorbs neutrons or other ionizing radiation. { 'əb'sɔrb-ər }

absorber capacity [CHEM ENG] During natural gas processing, the maximum volume of the gas that can be processed through an absorber without alteration of specified operating conditions. { 'əb'sɔrb-ər kə-pas-əd-ē }

absorber control See absorption control. { 'əb'sɔrb-ər kən-trōl }

absorber oil See absorption oil. { 'əb'sɔrb-ər 'ōil }

absorber plate [ENG] A part of a flat-plate solar collector that provides a surface for absorbing incident solar radiation. { 'əb'sɔrb-ər 'plāt }

absorbing boom [CIV ENG] A device that floats on the water and is used to stop the spread of an oil spill and aid in its removal. { 'əb'sɔrb-ŋ 'būm }

absorbing rod See control rod. { 'əb'sɔrb-ŋ 'rōd }

absorbing state [MATH] A special case of recurrent state in a Markov process in which the transition probability,  $P_{ij}$ , equals 1; a process will never leave an absorbing state once it enters. { 'əb'sɔrb-ŋ 'stāt }

absorbing well [CIV ENG] A shaft that permits water to drain through an impermeable stratum to a permeable stratum. { 'əb'sɔrb-ŋ 'wel }

absorbance [PHYS] The ratio of the total unabsorbed radiation to the total incident radiation; equal to one (unity) minus the transmittance. { 'əb'sɔrb-əns }

absorptiometer [ANALY CHEM] 1. An instrument equipped with a filter system or other simple dispersing system to measure the absorption of nearly monochromatic radiation in the visible range by a gas or a liquid, and so determine the concentration of the absorbing constituents in the gas or liquid. 2. A device for regulating the thickness of a liquid in spectrophotometry. { 'əb'sɔrp-tē-ō-mē-tər }

absorptiometric analysis [ANALY CHEM] Chemical analysis of a gas or a liquid by measurement of the peak electromagnetic

## ABSOLUTE TEMPERATURE

	Kelvin	Celsius	Rankine	Fahrenheit
steam point	373°	100°	672°	212°
		100°K or °C		180°R or °F
ice point	273°	0°	492°	32°
solid CO <sub>2</sub>	195°	-78°	351°	-109°
oxygen point	90°	-183°	162°	-287°
absolute zero	0°	-273°	0°	-460°

Comparisons of Kelvin, Celsius, Rankine, and Fahrenheit temperature scales. Temperatures are rounded off to nearest degree. (From M. W. Zemansky, *Temperatures Very Low and Very High*, Van Nostrand, 1964)

conduit with respect to time.

for switching a capacitor suddenly to a load through which it can

lamp in which light is produced by electrodes in a gas (or vapor) known as electric-discharge lamp. { 'dis, chärj, lamp }  
length of pipe through which drill-ramp through the standpipe on chärj, lün }

Liquid that has passed through known as effluent; product.

s) A method of printing in shaped to produce characters, calls on a previously dyed fabric at a pattern. { 'dis, chärj, print }

impregnated cotton wick encased aluminum mounting lug, used as static. { 'dis, chärj, ar }  
evacuated enclosure containing which current can flow when between metal electrodes in the charge tube. [MECH ENG] A water are released into a boiler

[ENG] A device which detects using a glass tube attached to a of leaked gas is indicated by ge. { 'dis, chärj, tüb 'lek, in }

stripping agent such as sodium rove dyes from fabric that has, chärj-iñ, ä-jönt }  
A support built over, and not ber, such as a wooden lintel, to known as relieving arch.

turbance in the consciousness

ers with enlarged, disklike re-

. { 'dis, kə, förm }  
ity of inarticulate brachiopods, { 'dis, kə, 'häs-tə }  
community that includes foreign of the natural climax by humans known as disturbance climax.

nd coccolith. { 'dis, kə, 'stər }  
astula formed by cleavage of a is disk-shaped. { 'dis, kə, 'blas }

Having a sucker on the head.

pe of spicule with eight rays tellid sponges. { 'dis, kə, 'tər }

Having sucking disks on the

astrula formed from a blasto-

A family of anuran amphibians Opisthocoele. { 'dis, kə, 'gläs }

nd circular in form. 2. Any tis, köid }

A type of cleavage producing { 'dis, kə, 'd-el 'klé-vij }

dily of extinct conical or glob-the order Holoctypoida distin-internal skeletal partitions.

ivalent name for Lecanorales.

tropical log beetles, a family

of coleopteran insects in the superfamily Cucujoidea. { 'dis, kə, 'läm-a, dē }

discomfort glare See glare. { 'dis, kəm-fört, glər }

discomfort index See temperature-humidity index. { 'dis, kəm-fört, in, dëks }

discomposition [NUCLEO] The process in which an atom is knocked out of its position in a crystal lattice by direct nuclear impact, as by fast neutrons or by fast ions that have been previously knocked out of their lattice positions. { 'dis, kəm-pə, 'zish-ən }

discomposition effect [NUCLEO] Changes in physical or chemical properties of a substance caused by discomposition. Also known as Wigner effect. { 'dis, kəm-pə, 'zish-ən i, fekt }

Discomycetes [MYCOL] A group of fungi in the class Ascomycetes in which the surface of the fruiting body is exposed during maturation of the spores. { 'dis, kō, mī, 'sēd-ēz }

discone antenna [ELECTROMAG] A biconical antenna in which one of the cones is spread out to 180° to form a disk; the center conductor of the coaxial line terminates at the center of the disk, and the cable shield terminates at the vertex of the cone. { 'dis, kōn an'ten-ə }

disconformity [GEOL] Unconformity between parallel beds or strata. { 'dis, kən-förm-ad-ē }

disconnect [ELEC] To open a circuit by removing wires or connections, as distinguished from opening a switch to stop current flow. [ENG] To sever a connection. { 'dis, kə, 'nekt }

disconnected set [MATH] A set in a topological space that is the union of two nonempty sets A and B for which both the intersection of the closure of A with B and the intersection of the closure of B with A are empty. { 'dis, kə, 'nekt-əd 'set }

disconnect fitting [ELEC] An electrical connection that can be disconnected without tools. { 'dis, kə, 'nekt, fid-iñ }

disconnecting switch [ELEC] A switch that isolates a circuit or piece of electrical apparatus after interruption of the current. Also known as disconnect. { 'dis, kə, 'nekt-iñ, swich }

disconnecting switch [ELEC] A switch that isolates a circuit or piece of electrical apparatus after interruption of the current. Also known as disconnect. { 'dis, kə, 'nekt-iñ, swich }

disconnecting switch [ELEC] A switch that isolates a circuit or piece of electrical apparatus after interruption of the current. Also known as disconnect. { 'dis, kə, 'nekt-iñ, swich }

discontinuity [ELECTROMAG] An abrupt change in the shape of a waveguide. Also known as waveguide discontinuity. [GEOL] 1. An interruption in sedimentation. 2. A surface that separates unrelated groups of rocks. [GEOPHYS] A boundary at which the velocity of seismic waves changes abruptly. [MATH] A point at which a function is not continuous. [MET] The place where the structural nature of a weldment is interfered with because of the materials involved or where the mechanical, physical, or metallurgical aspects are not homogeneous. [PHYS] A break in the continuity of a medium or material at which a reflection of wave energy can occur. { 'dis, kə, 'nē-ti-yū-əd }

discontinuous amplifier [ELECTR] Amplifier in which the input waveform is reproduced on some type of averaging basis. { 'dis, kən-tin-yə-was 'am-plä, fī-ər }

discontinuous coding sequence [MOL BIO] The coding sequence in deoxyribonucleic acid of eukaryotic split genes consisting of exons and introns. { 'dis, kən-tin-yə-was 'kōd-iñ, 'sē-kwōns }

discontinuous construction [BUILD] A building in which there is no solid connection between the rooms and the building structure or between different sections of the building; the design aims to reduce the transmission of noise. { 'dis, kən-tin-yə-was kən'strök-shən }

discontinuous phase See disperse phase. { 'dis, kən-tin-yə-was 'fāz }

discontinuous precipitation [MET] Precipitation principally at and away from the grain boundaries in a supersaturated solid solution; diffraction patterns show two lattice parameters; the solute in solution and the precipitate. { 'dis, kən-tin-yə-was prä, sip-ə, 'tā-shən }

discontinuous reaction series [GEOL] The branch of Bowen's reaction series that include olivine, pyroxene, amphibole, and biotite; each change in the series represents an abrupt change in phase. { 'dis, kən-tin-yə-was rē'ak-shən, 'sir-ēz }

discontinuous yielding [MET] The nonuniform plastic deformation of a metal along the length strained in tension. { 'dis, kən-tin-yə-was 'yēld-iñ }

discopodous [INV ZOO] Having a disk-shaped foot. { 'di'skəp-ədəs }

Discorbacea [INV ZOO] A superfamily of foraminiferan protozoans in the suborder Rotaliina characterized by a radial, perforate, calcite test and a monolamellar septa. { 'dis, kə, 'bäs-ə }

discord See dissonance. { 'di, skörd }

discordance [GEOL] An unconformity characterized by lack of parallelism between strata which touch without fusion. { 'di'skörd-əns }

discordant pluton [GEOL] An intrusive igneous body that cuts across the bedding or foliation of the intruded formations. { 'di'skörd-ənt 'plü, tən }

DISCOS See disturbance compensation system. { 'dis, kōs }

discount [IND ENG] A reduction from the gross amount, price, or value. { 'dis, kəunt }

discount factor [PETRO ENG] The ratio of the present worth of one or a series of future payments to the total undiscounted amount of such future payments. Also known as average discount factor; deferment factor; present-worth factor. { 'dis, kəunt, fak-tər }

discovery [MIN ENG] Finding of a valuable mineral deposit. { 'di'skəv-ə-rē }

discovery claim [MIN ENG] The first claim for the finding of a mineral deposit. { 'di'skəv-ə-rē, klām }

discovery vein [MIN ENG] The vein on which a mining claim is based. { 'di'skəv-ə-rē, vān }

discovery well [PETRO ENG] A successful exploration well. { 'di'skəv-ə-rē, wel }

discrete [SCI TECH] 1. Composed of separate and distinct parts. 2. Having an individually distinct identity. { 'di'skrēt }

discrete address beacon system See Mode S.

discrete comparator See digital comparator. { 'di'skrēt kəm'par-əd-ər }

discrete-film zone See belt of soil water. { 'di'skrēt, film, zōn }

discrete radio source [ASTROPHYS] A source of radio waves coming from a small area of the sky. { 'di'skrēt 'rād-ē-ō, 'sōrs }

discrete sampling [ELECTR] Sampling in which the individual samples are of such long duration that the frequency response of the channel is not deteriorated by the sampling process. { 'di'skrēt 'sam-pliñ }

discrete set [MATH] A set with no cluster points. { 'di'skrēt 'set }

discrete sound system [ENG ACOUS] A quadraphonic sound system in which the four input channels are preserved as four discrete channels during recording and playback processes; sometimes referred to as a 4-4-4 system. { 'di'skrēt 'saund, 'sis-təm }

discrete spectrum [SPECT] A spectrum in which the component wavelengths constitute a discrete sequence of values rather than a continuum of values. { 'di'skrēt 'spek-trəm }

discrete system [CONT SYS] A control system in which signals at one or more points may change only at discrete values of time. Also known as discrete-time system. { 'di'skrēt 'sis-təm }

discrete-time system See discrete system. { 'di'skrēt, tīm 'sis-təm }

discrete transfer function See pulsed transfer function. { 'di'skrēt 'tranz-fər, 'fəŋk-shən }

discrete variable [MATH] A variable for which the possible values form a discrete set. { 'di'skrēt 'ver-ə-bəl }

discrete-word intelligibility [COMMUN] The percent of intelligibility obtained when the speech units under consideration are words; usually presented so as to minimize the contextual relation between them. { 'di'skrēt, wörd in, tel-ə-jə 'bil-əd-ē }

discretization error [MATH] The error in the numerical calculation of an integral that results from using an approximate expression for the true mathematical function to be integrated. { 'dis, kə, 'də-zā-shən, 'er-ər }

discriminant [MATH] 1. The quantity  $b^2 - 4ac$ , where  $a, b, c$  are coefficients of a given quadratic polynomial:  $ax^2 + bx + c$ . 2. More generally, for the polynomial equation  $a_0x^n + a_1x^{n-1} + \dots + a_{n-1}x + a_n = 0$ ,  $a_0^{2n-2}$  times the product of the squares of all the differences of the roots of the equation, taken in pairs. { 'di'skrim-ə-nənt }

discriminant function [STAT] A linear combination of a set of variables that will classify events or items for which the variables are measured with the smallest possible proportion of misclassifications. { 'di'skrim-ə-nənt 'fəŋk-shən }

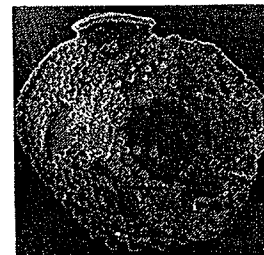
discrimination [COMMUN] 1. In frequency-modulated systems, the detection or demodulation of the imposed variations

## DISCONE ANTENNA



A high-frequency discone antenna.

## DISCORBACEA



Scanning electron micrograph of *Siphonina* from upper Eocene of Mississippi. (E. B. MacAdam, Chevron Oil Field Research Co.)

STAT] The number  $(1/N)[(v_i - \bar{v})(w_i - \bar{w})]$ , where  $v_i$  and  $w_i$ ,  $i = 1, \dots, n$ , are obtained from two populations, and  $\bar{v}$  and  $\bar{w}$  are means. { 'pāpyə'lā-shān kō'verē }

J The size of the population within { 'pāpyə'lā-shān 'den-sad-ē }

OL] The process by which groups the space or range within which they { 'pāpyə'lā-shān 'den-sad-ē }

OL] The spatial distribution at any individuals of a species of plant or { 'pāpyə'lā-shān 'den-sad-ē }

OL] The aggregate of processes that position of any population. { 'pāpyə'lā-shān 'den-sad-ē }

J The study of both experimental s of Mendelian heredity on the pop- of gene frequencies, genotypes, sms. { 'pāpyə'lā-shān 'den-sad-ē }

OL] The condition in which tomic system is more heavily pop- a lower energy state of the same { 'pāpyə'lā-shān 'den-sad-ē }

J The average of the numbers ob- by measuring some quan- nber. { 'pāpyə'lā-shān 'den-sad-ē }

J regression equation [STAT] nditional mean of the dependent independent variables under the ship is linear; for the multivariate, always exists. { 'pāpyə'lā-shān 'den-sad-ē }

J MECH] The number of members each of the allowed energy states in { 'pāpyə'lā-shān 'den-sad-ē }

J The arithmetic average of the { 'pāpyə'lā-shān 'den-sad-ē }

J where  $v_i$  are numbers obtained nbers, one for each member, and { 'pāpyə'lā-shān 'den-sad-ē }

J orbital of an atomic electron with quantum number of unity. { 'pāpyə'lā-shān 'den-sad-ē }

J grade ceramic ware characterized { 'pāpyə'lā-shān 'den-sad-ē }

J very low absorption, good trans- known as European porcelain; elain. { 'pāpyə'lā-shān 'den-sad-ē }

J A fixed capacitor in which the porcelain, molecularly fused to electrodes to form a monolithic { 'pāpyə'lā-shān 'den-sad-ē }

J A cement for bonding porcelain re of gutta-percha and shellac. { 'pāpyə'lā-shān 'den-sad-ē }

J clay suitable for use in the man- ly kaolin. Also known as por- { 'pāpyə'lā-shān 'den-sad-ē }

J clay. { 'pāpyə'lā-shān 'den-sad-ē }

J enamel. { 'pāpyə'lā-shān 'den-sad-ē }

J An electrical insulator made often made in a one-fire process, green or unfired ware, in contrast in making ordinary porcelain. { 'pāpyə'lā-shān 'den-sad-ē }

J rsia, nīl { 'pāpyə'lā-shān 'den-sad-ē }

J rd, naturally baked, imbedded of its red color had { 'pāpyə'lā-shān 'den-sad-ē }

J { 'pāpyə'lā-shān 'den-sad-ē }

J embeling unglazed porcelain. { 'pāpyə'lā-shān 'den-sad-ē }

J hard, opaque to subtranslucent fracture surface and a { 'pāpyə'lā-shān 'den-sad-ē }

J ling chinaware on { 'pāpyə'lā-shān 'den-sad-ē }

J A family of essential amino acids, xillosina. { 'pāpyə'lā-shān 'den-sad-ē }

J rock sliders, a family of { 'pāpyə'lā-shān 'den-sad-ē }

pod crustaceans of the group Anomura which resemble true crabs but are distinguished by the reduced, chelate fifth pereopods and the well-developed tail fan. { 'pāpyə'lā-shān 'den-sad-ē }

porcellanite [PETR] A hard, dense siliceous rock, such as impure chert or indurated clay or shale. { 'pāpyə'lā-shān 'den-sad-ē }

porcupine [VERT ZOO] Any of about 26 species of rodents in two families (Hystricidae and Erethizontidae) which have spines or quills in addition to regular hair. { 'pāpyə'lā-shān 'den-sad-ē }

porcupine boiler [MECH ENG] A boiler having dead end tubes projecting from a vertical shell. { 'pāpyə'lā-shān 'den-sad-ē }

pore [ASTRON] A very small, dark area on the sun formed by the separation of adjacent flocculi. [BIOL] Any minute opening by which matter passes through a wall or membrane. [GEOL] An opening or channelway in rock or soil. [MET] A minute cavity in a powder compact, metal casting, or electroplated coating. { 'pāpyə'lā-shān 'den-sad-ē }

pore compressibility [GEOL] The fractional change in reservoir-rock pore volume with a unit change in pressure upon that rock. { 'pāpyə'lā-shān 'den-sad-ē }

pore diameter [DES ENG] The average or effective diameter of the openings in a membrane, screen, or other porous material. { 'pāpyə'lā-shān 'den-sad-ē }

pore diffusion [FL MECH] The movement of fluids (gas or liquid) into the interstices of porous solids or membranes; occurs in membrane separation, zeolite adsorption, dialysis, and reverse osmosis. { 'pāpyə'lā-shān 'den-sad-ē }

pore fungus [MYCOL] The common name for members of the families Boletaceae and Polyporaceae in the group Hymenomycetes; sporebearing surfaces are characteristically within tubes or pores. { 'pāpyə'lā-shān 'den-sad-ē }

pore ice [HYD] Ice which fills or partially fills pore spaces in permafrost; forms by freezing soil water in place, with no addition of water. { 'pāpyə'lā-shān 'den-sad-ē }

porocephaly [MED] A condition in which the cavity of a lateral ventricle extends to the surface of the cerebral hemisphere; may result from brain tissue destruction or maldevelopment. { 'pāpyə'lā-shān 'den-sad-ē }

pore pressure See neutral stress. { 'pāpyə'lā-shān 'den-sad-ē }

pore-size distribution [GEOL] Variations in pore sizes in reservoir formations; each type of rock has its own typical pore size and related permeability. { 'pāpyə'lā-shān 'den-sad-ē }

pore space [GEOL] The pores in a rock or soil considered collectively. Also known as pore volume. { 'pāpyə'lā-shān 'den-sad-ē }

pore volume See pore space. { 'pāpyə'lā-shān 'den-sad-ē }

pore-water pressure See neutral stress. { 'pāpyə'lā-shān 'den-sad-ē }

porifera [METEOROL] Violent northeast winds on the Black Sea near the Bosphorus. { 'pāpyə'lā-shān 'den-sad-ē }

Porifera [INV ZOO] The sponges, a phylum of the animal kingdom characterized by the presence of canal systems and chambers through which water is drawn in and released; tissues and organs are absent. { 'pāpyə'lā-shān 'den-sad-ē }

Porlezza [METEOROL] An east wind on Lake Lugano (Italy and Switzerland), blowing from the Gulf of Porlezza. { 'pāpyə'lā-shān 'den-sad-ē }

porocyte [INV ZOO] One of the perforated, tubular cells which constitute the wall of the incurrent canals in certain Porifera. { 'pāpyə'lā-shān 'den-sad-ē }

porogamy [BOT] Passage of the pollen tube through the micropyle of an ovule in a seed plant. { 'pāpyə'lā-shān 'den-sad-ē }

poromeric material [TEXT] A fabric made of polyurethane strengthened by polyester. { 'pāpyə'lā-shān 'den-sad-ē }

porosimeter [ENG] Laboratory compressed-gas device used for measurement of the porosity of reservoir rocks. { 'pāpyə'lā-shān 'den-sad-ē }

porosity [MED] Condition characterized by increased porosity, of bone. { 'pāpyə'lā-shān 'den-sad-ē }

Porosity [PHYS] 1. Property of a solid which contains many minute channels or open spaces. 2. The fraction as a percent of the total volume occupied by these channels or spaces; for example, in petroleum engineering the ratio (expressed in percent) of the void space in a rock to the bulk volume of that rock. { 'pāpyə'lā-shān 'den-sad-ē }

porosity feet [PETRO ENG] Reservoir porosity fraction multiplied by net pay in feet, where porosity fraction is the portion of the reservoir that is porous, and net pay is the depth and areal extent of the hydrocarbons-containing reservoir. { 'pāpyə'lā-shān 'den-sad-ē }

porosity trap See stratigraphic trap. { 'pāpyə'lā-shān 'den-sad-ē }

porous [MATER] 1. Filled with pores. 2. Capable of absorbing liquids. { 'pāpyə'lā-shān 'den-sad-ē }

porous alum See aluminum sodium sulfate. { 'pāpyə'lā-shān 'den-sad-ē }

porous bearing [DES ENG] A bearing made from sintered metal powder impregnated with oil by a vacuum treatment. { 'pāpyə'lā-shān 'den-sad-ē }

porous carbon [MATER] Plates, tubes, or disks of uniform carbon particles pressed together without a binder; used for the filtration of corrosive liquids and gases. { 'pāpyə'lā-shān 'den-sad-ē }

porous graphite [MATER] Plates, tubes, or disks of uniform graphite particles pressed together without a binder; more resistant to oxidation but lower in strength than porous carbon. { 'pāpyə'lā-shān 'den-sad-ē }

porous metals [MET] Metals, made by powder metallurgy, having uniformly distributed controlled pore sizes, in the form of sheets, tubes, and shapes; used for filtering liquids and gases at elevated temperatures. { 'pāpyə'lā-shān 'den-sad-ē }

porous mold [ENG] A plastic-forming mold made from bonded or fused aggregates (such as powdered metal or coarse pellets) so that the resulting mass contains numerous open interstices through which air or liquids can pass. { 'pāpyə'lā-shān 'den-sad-ē }

porous reservoir model [PETRO ENG] Scaled laboratory model of porous reservoir used for the study of reservoir areal waterflood efficiencies. { 'pāpyə'lā-shān 'den-sad-ē }

porous wheel [DES ENG] A grinding wheel having a porous structure and a vitrified or resinoid bond. { 'pāpyə'lā-shān 'den-sad-ē }

Poroxylaceae [PALEOBOT] A monogeneric family of extinct plants included in the Cordaitales. { 'pāpyə'lā-shān 'den-sad-ē }

porpezite [MINERAL] A mineral consisting of a native alloy of palladium (S-10%) and gold. Also known as palladium gold. { 'pāpyə'lā-shān 'den-sad-ē }

porphin [BIOCHEM] A heterocyclic ring consisting of four pyrrole rings linked by methine (-CH=) bridges; the basic structure of chlorophyll, hemoglobin, the cytochromes, and certain other related substances. { 'pāpyə'lā-shān 'den-sad-ē }

porphobilinogen [BIOCHEM]  $C_{10}H_{14}O_4N_2$ . Dicarboxylic acid derived from pyrrole; a product of hemoglobin breakdown that gives the urine a Burgundy-red color. { 'pāpyə'lā-shān 'den-sad-ē }

porphite See porphyry. { 'pāpyə'lā-shān 'den-sad-ē }

porphyria [MED] A usually hereditary, pathologic disorder of porphyrin metabolism characterized by porphyrinuria and photosensitivity. { 'pāpyə'lā-shān 'den-sad-ē }

porphyrin [BIOCHEM] A class of red-pigmented compounds with a cyclic tetrapyrrolic structure in which the four pyrrole rings are joined through their  $\alpha$ -carbon atoms by four methine bridges ( $=C-$ ); the porphyrins form the active nucleus of chlorophylls and hemoglobin. { 'pāpyə'lā-shān 'den-sad-ē }

porphyrinuria [MED] The excretion of large quantities of porphyrin in the urine. { 'pāpyə'lā-shān 'den-sad-ē }

porphyritic [PETR] Pertaining to or resembling porphyry. { 'pāpyə'lā-shān 'den-sad-ē }

porphyroblast [PETR] A relatively large crystal formed in a metamorphic rock. { 'pāpyə'lā-shān 'den-sad-ē }

porphyroblastic [PETR] Pertaining to the texture of recrystallized metamorphic rock having large idioblasts of minerals possessing high form energy in a finer-grained crystalloblastic matrix. { 'pāpyə'lā-shān 'den-sad-ē }

porphyrocrystalline See porphyrotopic. { 'pāpyə'lā-shān 'den-sad-ē }

porphyroclastic structure See mortar structure. { 'pāpyə'lā-shān 'den-sad-ē }

porphyrogranulitic [PETR] Referring to ophitic texture characterized by large phenocrysts of feldspar and augite or olivine in a groundmass of smaller lath-shaped feldspar crystals and irregular augite grains; a combination of porphyritic and intergranular textures. { 'pāpyə'lā-shān 'den-sad-ē }

porphyroid [PETR] 1. A blastoporphyrity, or sometimes porphyroblastic, metamorphic rock of igneous origin. 2. A feldspathic metasedimentary rock having the appearance of a porphyry. { 'pāpyə'lā-shān 'den-sad-ē }

porphyroskelle [GEOL] Pertaining to an arrangement in a soil fabric whereby the plasma occurs as a dense matrix in which skeleton grains are set like phenocrysts in a porphyritic rock. { 'pāpyə'lā-shān 'den-sad-ē }

porphyrotope [GEOL] A large crystal enclosed in a finer-grained matrix in a sedimentary rock showing porphyrotopic fabric. { 'pāpyə'lā-shān 'den-sad-ē }

porphyrotopic [GEOL] Referring to the fabric of a crystalline

## PORCUPINE



The Canadian porcupine (*Erethizon dorsatum*), about 3½ feet (1 meter) long.

## PORIFERA

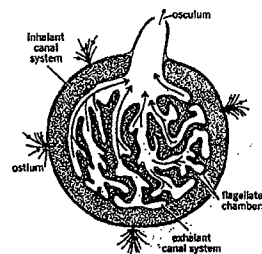


Diagram of the canal system of a young fresh-water sponge.